

REMARKS

The Office Action dated September 14, 2005 and Advisory Action dated November 30, 2005 have been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1 and 2 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claim 3 has been canceled without prejudice. No new matter has been added. An RCE and appropriate Extension of Time is submitted herewith. Claims 1, 2, and 4-38 are currently pending in the application and are respectfully submitted for consideration.

In the Office Action, claims 1-12, 14, and 16-38 were rejected under 35 U.S.C. §102(b) as being anticipated by Beuk (U.S. Patent No. 5,774,673). The rejection is respectfully traversed for the reasons which follow.

Claim 1, upon which claims 2-13 and 33-34 are dependent, recites a method for controlling data flow across a link. The method includes the steps of transmitting a packet request message from a first station to a second station, determining if the packet request message is valid, transmitting a request acknowledge message from the second station to the first station, and determining if the request acknowledge message is valid. The step of transmitting a packet request message further includes the step of generating the packet request message, which includes generating a request non-payload bit string

corresponding to a pre-programmed packet request register. The packet request message and the request acknowledge message each include a control bit string, an identification bit string, and at least one parity bit. The control bit string identifies whether a frame is a control frame or a data frame. The identification bit string correlates the packet request message with a corresponding request acknowledge message.

Claim 14, upon which claims 15-27 and 35-36 are dependent, recites a data flow control method for controlling data transmitted across a high speed link. The method includes the step of transmitting a packet request message from a first station to a second station, said packet request message having a first identification number, a first control code group, and a first parity parameter associated therewith. The method further includes the step of storing the first identification number associated with the packet request message. The method also includes the step of transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having a second identification number, a second control group, and a second parity parameter associated therewith. The method further includes the steps of determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid. The first control group and the second control group are configured to identify whether a frame is a control frame or a data frame. The first identification number and second identification number are configured

to correlate the packet request message with a corresponding request acknowledge message.

Claim 28, upon which claims 29-32 and 37-38 are dependent, recites an apparatus for controlling data flow across a link. The apparatus includes a first transmitting unit for transmitting a packet request message from a first station to a second station, said packet request message including a first identification number, a first control code group, and a first parity parameter associated therewith. The apparatus also includes a storage unit for storing the first identification number associated with the packet request message, and a second transmitting unit for transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having second identification number, a second control group, and a second parity parameter associated therewith. The apparatus further includes at least one flow logic unit for determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid. The first control group and the second control group are configured to identify whether a frame is a control frame or a data frame. The first identification number and second identification number are configured to correlate the packet request message with a corresponding request acknowledge message.

The cited prior art reference of Beuk fails to disclose or suggest the elements of the claims, and therefore fails to provide the features discussed above.

Beuk discloses a system for communicating between a dynamic group of apparatuses. The system allows an apparatus to establish communication between a local application and applications in other apparatuses. An active activation unit invites applications in other apparatuses to join by using a message sending unit to transmit a broadcast frame to all apparatuses which requests activation of the selected application. The broadcast frame specifies which application is being activated. The active activation unit then determines a communication channel which corresponds to the application and the selected application, which is stored in storage, is executed by an execution unit. The broadcast frame is received by a message receiving unit in other apparatuses. A passive activation unit verifies whether the receiving apparatus has an application, which corresponds to the specified application and whether such an application needs to be activated (Col. 1, line 57 – Col. 3, line 25).

Applicants respectfully submit that Beuk fails to disclose or suggest all of the elements of the presently pending claims. For example, Applicants respectfully assert that Beuk does not disclose or suggest “wherein said step of transmitting a packet request message further comprises the step of generating the packet request message, the step of generating the packet request message comprising generating a request non-payload bit string corresponding to a pre-programmed packet request register,” as recited in claim 1. More specifically, Applicants submit that Beuk fails to disclose or suggest that generating the packet request message includes generating a request non-payload bit string corresponding to a pre-programmed packet request register.

The Office Action appears to take the position that the above-stated limitation of the claims is disclosed by the TYPE field of Beuk (Office Action, page 4, lines 3-5). Applicants respectfully disagree. Beuk teaches that the “TYPE field comprises an A/M field and a B/G field. The A/M field is used to distinguish between an acknowledgment frame and a message frame. The B/G field is used to distinguish between the types of message frames: a broadcast frame and a group frame” (Beuk, Column 12, lines 36-43). Therefore, the TYPE field of Beuk serves the specific purpose of identifying the type of frame, i.e. acknowledgment frame or message frame, and, if the frame is a message frame, the TYPE field identifies whether it is a broadcast or group frame. Beuk does not disclose or suggest that the TYPE field of the message frame includes a request non-payload bit string corresponding to a pre-programmed packet request register. As such, Applicants submit that Beuk does not disclose or suggest at least this element of claim 1.

Further, the Office Action takes the position that the TYPE field of Beuk also corresponds to the control bit string, request control code group, and acknowledge control code group, recited in claims 1, 2, and 6, respectively (see Office Action, pages 3-4). As discussed above, the TYPE field of Beuk is used to identify the type of frame. Beuk cannot possibly be considered to disclose or suggest that the TYPE field is utilized as a control bit string, request control code group, acknowledge control code group, and a request non-payload bit string corresponding to a pre-programmed packet request register, as recited in the present claims. Thus, Beuk does not disclose or suggest “wherein said step of transmitting a packet request message further comprises the step of

generating the packet request message, the step of generating the packet request message comprising generating a request non-payload bit string corresponding to a pre-programmed packet request register,” as recited in claim 1.

Additionally, Applicants submit that Beuk fails to disclose or suggest that the identification bit string correlates the packet request message with a corresponding request acknowledge message, as recited in claim 1. Similarly, Beuk also fails to disclose or suggest that the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message, as recited in claims 14 and 28. In one embodiment of the present invention, the packet request message and the request acknowledge message both include an identification string.

According to an aspect of the invention, this identification string is used to identify and correlate a specific packet request message with the corresponding request acknowledge message. Through implementation of this correlation scheme, accurate flow control across a high speed link is generated and, therefore, queue or buffer management requirements are reduced at the receiving end (Specification, page 108, lines 19-28). Applicants respectfully assert that Beuk fails to disclose or suggest that the identification strings are configured to correlate the packet request message with the corresponding request acknowledge message, as recited in the present claims.

The Office Action and Advisory Action take the position that “the identification bit string correlates the packet request message with a corresponding request

acknowledge message is anticipated by the channel field shown in group frame 630 of figure 3 that is copied to the channel field of acknowledgement frame 640 of figure 3 and that is used to filter acknowledgement messages as spoken of on column 4, lines 38-48 and column 12, lines 19-28.” Applicants respectfully disagree. Beuk specifically discloses that the channel field, included in the group frame 630, is used for identifying a communication channel. Each apparatus of Beuk includes channel activation means 240 for locally activating specific communication channels. The message sending means 200 only transmits a group frame 630 if the channel field specifies a channel which has been locally activated by the channel activation means 240 (Beuk, Column 11, line 67 - Column 12, line 7). Beuk further discloses that “the acknowledgement frame 640 for acknowledging a group frame 630 may comprise the same channel field as used for the group frame 630. In that case, the acknowledge sending means 220 will only transmit an acknowledgement frame, acknowledging the reception of the group frame, if the message receiving means 210 of Fig. 2 correctly receives a group frame, whose channel field specifies a locally activated channel. The acknowledge sending means 220 copies the channel identification from the channel field of the received group frame to the channel field of the acknowledgement frame” (Beuk, Column 12, lines 10-28).

Therefore, according to Beuk, the channel field is utilized to identify a communication channel. In addition, according to Beuk, a determination is made whether to transmit a group frame based on whether the channel field specifies a locally activated channel. However, Beuk does not disclose or suggest that the channel field is

used to identify and correlate a specific request message with a corresponding acknowledgment message. Beuk merely discloses that the acknowledgment frame may include the same channel field as the group frame, and that the channel identification may be copied from the channel field of the received group frame to the channel field of the acknowledgment frame. The channel identification, as suggested by its name, is used to identify the communication channel used. Beuk does not disclose or suggest that the channel field or channel identification is used to correlate a specific request message with a corresponding acknowledgment message, as recited in the present claims. As a result, Applicants respectfully assert that Beuk fails to disclose or suggest at least this element of the claims.

For at least the reasons discussed above, Applicants respectfully submit that Beuk fails to disclose or suggest all of the elements of claims 1, 14, and 28. Thus, Applicants respectfully request that the rejection of claims 1, 14, and 28 be withdrawn.

Applicants respectfully submit that claims 2-13 and 33-34 are dependent upon claim 1, while claims 15-27 and 35-36 are dependent upon claim 14 and claims 29-32 and 37-38 are dependent upon claim 28. Therefore, claims 2-13, 33-34, 15-27, 35-36, 29-32 and 37-38 should be allowed for at least their dependence upon claims 1, 14, and 28, respectively, and for the specific limitations recited therein.

Claims 13 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Beuk in view of Meyer (U.S. Patent No. 6,611,495). The Office Action took the position that Beuk teaches all of the elements of claims 13 and 15, with the exception of the

starting of a timer upon transmission of a packet request message and retransmitting the message if a predetermined period of time has passed. The Office Action then relies upon Meyer to cure the deficiency in Beuk. The rejection is respectfully traversed for the reasons which follow.

Beuk is discussed above. Meyer discloses a system and method for improved data transfer in packet-switched communication networks. A sender receives an acknowledgement message indicating that the intended recipient received a data packet, and a retransmission timer is initialized with a value that compensates for the time lag between the transmission of a data packet by the sender and the receipt of an acknowledgement message.

Applicants note that claim 13 is dependent upon claim 1, while claim 15 is dependent upon claim 14. Applicants respectfully submit that Meyer, like Beuk, fails to disclose or suggest the control string and identification strings of the present invention. As such, Meyer fails to cure the deficiencies in Beuk with respect to claims 1 and 14 as discussed above. Therefore, claims 13 and 15 should be found allowable for at least their dependence upon claims 1 and 14, respectively, and for the specific limitations recited therein.

Applicants respectfully submit that Beuk and Meyer, whether taken alone or in combination, fail to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated

and unobvious. It is therefore respectfully requested that all of claims 1, 2, and 4-38 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Request for Continued Examination
Petition for Extension of Time